

Applicant: Miles et al.
Application No.: 10/612,133

IN THE CLAIMS

Claim 24 is presented below with proposed amendments.

Proposed Claim 1

24. (Currently amended) A scanning probe microscope for imaging a sample in accordance with an interaction between the sample and a probe, the microscope comprising

a first driving means arranged to provide relative motion between the probe and the sample surface and capable of bringing the sample and probe into close proximity, sufficient for a detectable interaction to be established between them;

~~means for oscillating either the probe or the sample in order to provide relative oscillatory motion of the probe across the surface;~~

a probe detection mechanism arranged to measure at least one parameter indicative of the strength of the interaction between the probe and the sample; and

a feedback mechanism arranged to provide for adjustment of probe-sample separation via operation of the driving means in response to a variation in an average value of one of the at least one parameters away from a predetermined set value; and

a second driving means that causes resonant or near resonant lateral oscillation of either the sample or the probe, with an oscillation amplitude of at least one micrometer;

the microscope is arranged, in operation, to carry out a scan of the sample surface ~~wherein~~ and a scan area is covered by an arrangement of scan lines, each scan line being provided by ~~laterally oscillating~~ the lateral oscillation of either the probe or the sample ~~at or near its resonant frequency~~ such that oscillation amplitude directly determines maximum scan line length and the arrangement of scan lines is provided by operation of the first driving means, and ~~wherein the microscope is further arranged~~ readings are continually made by the probe detection mechanism to form an image corresponding to at least two variations of the measured parameter during each oscillation.